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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/778,020	02/17/2004	Hitoshi Tsuchiya	118489	6177

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OLIFF & BERRIDGE, PLC
P.O. BOX 19928
ALEXANDRIA, VA 22320

EXAMINER	
NGUYEN, THANH NHAN P	
ART UNIT	**PAPER NUMBER**
2871	

DATE MAILED: 05/04/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/778,020	TSUCHIYA, HITOSHI	
	Examiner	Art Unit	
	(Nancy) Thanh-Nhan P. Nguyen	2871	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *2/17/2004*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-4* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1,2 and 4* is/are rejected.

7)☒ Claim(s) *3* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *17 February 2004* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *2/17/04*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claim Objections

Claim 2 is objected to because of the following informalities:

Claim 2 presently read as "the alignment restrictor being at least one of a slit opening projection formed in the electrode." It appears that it should have read, "the alignment restrictor being at least one of a slit opening **and a** projection formed in the electrode."

Appropriate correction is required.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter, which the applicant regards as his invention.

Claim 1 rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 1 currently read as "... the alignment restrictor restricting the liquid crystal molecules in the reflective display area so as to be in parallel." The liquid crystal molecules in the reflective display area so as to be in parallel makes the claim unclear since it does not mention to what the molecules (in the reflection display area) are parallel to. Therefore, for the examination purpose, claim 1 will be interpreted as "... the

alignment restrictor restricting the liquid crystal molecules in the reflection display area so as to be in parallel to each others."

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) The invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-2, 4 are rejected under 35 U.S.C. 102(b) as being anticipated by Ogishima et al U.S. Patent Application Publication No. 2002/0149728.

Referring to claim 1, Ogishima et al discloses a liquid crystal display device, comprising:

- a liquid crystal layer (330) sandwiched between a pair of substrates, the liquid crystal layer including liquid crystal with negative dielectric anisotropy, and an initial alignment state of molecules of the liquid crystal being vertical;
- dot areas, each dot area having a reflective display area and at least two transmissive display areas;

the display device further comprising:

- an adjusting layer (313) provided between the liquid crystal layer and at least one substrate of the pair of substrates, the adjusting layer making a thickness of the liquid crystal layer different in the reflective display area and the

transmissive display areas and being provided at least in the reflective display area;

- and an alignment restrictor (316) making the liquid crystal molecules in the transmissive display areas tilted from an inside to an outside of the transmissive display area, the tilting direction of the liquid crystal molecules being opposite to each other in two adjacent transmissive display areas, the alignment restrictor restricting the liquid crystal molecules in the reflective display area so as to be in parallel to each other, [see figs 33A-33B; par. 0033].

The device structure in claim 1 has met the device structure in reference (figs. 33A-33B). Therefore, the device in reference would function as the device in claim 1.

Referring to claim 2, Ogishima et al discloses:

- the adjusting layer having a slope (306) in the vicinity of a boundary between the reflective display area and the transmissive display areas;
- an electrode (322, 312 (312t, 312r)) that drives the liquid crystal being provided on each internal surface of the pair of substrates;
- and the alignment restrictor (316) being a projection formed in the electrode (312t), [see fig. 33B].

Referring to claim 4, a personal computer could include the liquid crystal display device according to claim 1 for having a wide viewing angle characteristic and high display quality, [see pars. 0001-0002].

Allowable Subject Matter

Claim 3 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Claim 3 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter:

None of prior art taught or disclosed a transflective liquid crystal display device comprising:

- dot areas, each dot area having a reflective display area and at least two transmissive display areas;
- in a first transmissive display area of two adjacent transmissive display areas in each dot area, the substrate with the adjusting layer has an opening in the electrode on the slope of the adjusting layer, and the other substrate has an opening or a projection in the electrode in a substantially central portion of the first transmissive display area;
- and in a second transmissive display area of the two adjacent transmissive display areas in each dot area, the substrate with the adjusting layer has an opening or a projection in the electrode in a substantially central portion of

the second transmissive display area, and the other substrate has an opening or a projection in the electrode in a portion-corresponding to a slope of the adjusting layer.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Ogishima et al U.S. Patent Application Publication No. 2002/0149728 discloses a transflective liquid crystal display device comprising dot areas, each dot area having a reflective display area and at least two transmissive display area; an adjusting layer making a thickness of the liquid crystal layer different in the reflective display area and the transmissive display area; and an alignment restrictor making the liquid crystal molecules in the transmissive display areas tilted from an inside to an outside of the transmissive display area, the tilting direction of the liquid crystal molecules being opposite to each other in two adjacent transmissive display areas, the alignment restrictor restricting the liquid crystal molecules in the reflective display area so as to be in parallel to each other

Any inquiry concerning this communication or earlier communications from the examiner should be directed to (Nancy) Thanh-Nhan P. Nguyen whose telephone number is 571-272-1673. The examiner can normally be reached on M-F/9-5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert Kim can be reached on 571-272-2293. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

April 25, 2005
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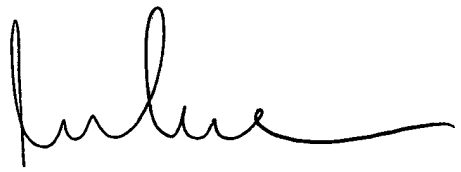

DUNG T. NGUYEN
PRIMARY EXAMINER